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Serial Number: 10/092,392

Reply to Office Action dated 13 June 2005

REMARKS/ARGUMENTS

At the outset, the courtesies extended by the Examiner in granting the 8 September 2004 telephonic interview, and the professionalism he demonstrated during that interview, are appreciatively noted. During the interview, the references cited by the Examiner in the 13 June 2005 final Office Action were discussed in light of the clarifying amendments proposed to independent Claims 1, 11 and 22 by the undersigned agent, as set forth herein. The following paragraphs include all of the substance discussions of the interview.

Responsive to the 13 June 2005 final Office Action and the discussions of the interview, Claims 1, 11, 13, 14, and 22 are now further amended for continued prosecution with the other pending claims. Claims 7, 10 and 24 have also been amended to remove obvious grammatical errors found therein. It is believed that with such amendment of the pending claims, there is a further clarification of their recitations. It is to be noted that the limitations now claimed were recited either in the original claims or in previously presented amended claims. Claims 12 and 23 were cancelled and the subject matter therein incorporated into their corresponding base Claims. Claims 1-11, 13-22 and 24 will be pending in this Application upon entry of the Amendment filed herewith.

In the Official Action, the Examiner rejected Claims 1-3, 5-7, 11, 12, 15, 16, 18-20, 22 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Rhee (U.S. Patent #6,289,054) in view of Ayanoglu, et al. (U.S. Patent #5,600,663;

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hereinafter Ayanoglu). In setting forth these rejections, the Examiner alleged that Rhee's adapter 414 provides data to the transmitter 408 as selected packet data portions. The Examiner acknowledged that Rhee does not disclose the limitation of "exclusive of the remaining portions of each of the plurality of frame packets" and relies on Ayanoglu for such disclosure. The Examiner further rejected Claims 4, 10, 17 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Rhee and Ayanoglu in view of Lewis, et al. (U.S. Patent #6,601,209; hereinafter Lewis). The Examiner observed that Rhee does not disclose the forward error correction code generated using a BCH code and relied on Lewis for such disclosure. Claims 8, 9, 13 and 21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Rhee and Ayanoglu in view of Tan, et al. (U.S. Patent #6,075,576; hereinafter Tan). The Examiner stated that Rhee does not disclose setting a flag indicating that a fixed VOP increment is to be used and for providing a corresponding fixed time increment value thereto. The Examiner then stated that Tan teaches the use of such VOP time increment data. The Examiner further rejected Claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Rhee and Ayanoglu in view of Watanabe, et al. (U.S. Patent #6,084,888; hereinafter Watanabe). The Examiner observed that Rhee discloses MPEG-4 and relies on Watanabe to provide an example of a Header Extension Code in a packet thereof.

In the Official Action of 13 June 2005, the Examiner did not provide detailed grounds for rejecting Claims 12 and 23. However, the Examiner had

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previously rejected Claims 12 and 23 in the Office Action of 3 November 2004 as being anticipated by Rhee, stating that the adapter 414 provides data to the transmitter 408 for concatenating selected packet data portions

As the amended Claims now more clearly recite, the invention of the subject Patent Application provides forward error correction (FEC) to a data frame, such as those in MPEG compliant data streams. Subsequent to a data frame being packetized, "portions of packet data [are selected] from each of the plurality of frame packets, said selected portions being less than an entirety of a corresponding frame packet". Once the desired portions of the packet have been selected, the invention provides for "simultaneously concatenating only the selected portions of packet data from each of the plurality of frame packets into a concatenated bit field", for which "a forward error correction code [is generated]".

The full combinations of these and other features now more clearly recited by Applicant's pending Claims are not disclosed, mentioned, or even alluded to in the cited references. While Rhee admittedly implements an FEC via well-known linear block coding, it is a traditional implementation thereof and far removed from Applicants invention. Indeed, not only does Rhee fail to show where "selected portions of packet data from each of the plurality of frame packets [are concatenated] into a concatenated bit field", where "said selected portions [are] less than an entirety of a corresponding frame packet", the reference does not disclose where even *entire* packets are formed together in a chain to "generat[e] a

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forward error correction code for the concatenated bit field". To illustrate, consider the frame packets illustrated in Fig. 5 and discussed in column 6 of the reference, where traditional packets p1, p2 and p3 are formed for frame 1. It is well known in the art that such packets are transmitted separately and, accordingly, Rhee shows in Figs. 5 and 6 a space between packets. Nowhere is it shown in Rhee that these packets, much less "selected portions" thereof, are ever "simultaneously concatenat[ed] ... into a concatenated bit field" so as to facilitate "generating a forward error correction code for the concatenated bit field".

Additionally, as it is well known that every packet receives information as to its transmission source and destination in at least a packet header, any concatenation of traditional packets, such as those in Rhee, would include these header data between adjacent packets. The header data are not frame packet data, but are overhead with respect thereto, for purposes of packet transport. Thus, even if the packets of Rhee were formed in a chain, the intervening data of the header of each packet would prohibit "simultaneously concatenating only the selected portions of packet data". Moreover, "generating a forward error correction code for the concatenated bit field", where the header data are included in the bit field, would render inoperable the recovery process at a receiver equipped to apply FEC in the traditional mode, such as implemented by Rhee, in that the FEC code is to be applied to the frame data as generated therefrom and not to packet transport data of the header. Clearly, this is not the intent of Rhee and, therefore, Rhee not

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only fails to disclose the combination of claimed limitations, as amended, the reference also fails to suggest such. Thus, it is respectfully submitted that Rhee neither anticipates nor makes obvious the invention of the subject Patent Application, as now claimed.

Given such contrary teachings of the primarily cited Rhee reference, the secondarily cited Ayanoglu reference is found to be quite ineffectual to the present patentability analysis. Ayanoglu discloses a forward error correction system having selective error coding granularity. The reference describes a bit-level FEC using block or convolutional coding techniques, byte-level FEC using Cyclical Redundancy Check techniques, and packet-level FEC using known techniques and the addition of FEC data to the transmitted packets. Ayanoglu was cited by the Examiner as teaching the limitation of "exclusive of the remaining portions of each of the plurality of frame packets". However, nowhere is it shown or even suggested in Ayanoglu the "selected portions being less than an entirety of a corresponding frame packet" for "simultaneously concatenating only the selected portions of packet data ... into a concatenated bit field", as recited by Applicants' newly-amended Claims. Certainly, then, the reference cannot show the claimed step of "generating a forward error correction code for the concatenated bit field" when the claimed bit field is not so formed.

The remaining secondarily cited references do not remedy the combined teachings of Rhee and Ayanoglu so as to show the invention of the subject Patent

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Application. Lewis was cited for showing the use of BCH error codes in the error correction of data, Tan was cited to show fixed Video Object Plane incrementing, and Watanabe was cited to show the use of a Header Extension Code in packet transmission. None of these references, however, disclose, or even suggest, the combination of "selecting portions of packet data from each of the plurality of frame packets, said selected portions being less than an entirety of a corresponding frame packet" for "simultaneously concatenating only the selected portions of packet data from each of the plurality of frame packets into a concatenated bit field" and then "generating a forward error correction code for the concatenated bit field", as is now claimed. That being so, none of the references cited, either alone or taken in combination with one another, describes or even suggests the invention of the subject Patent Application, as now claimed.

All of the pending Claims, as now amended, either by direct recitation or by inherency from its dependency on a base claim, include the limitations of "simultaneously concatenating only the selected portions of packet data from each of the plurality of frame packets into a concatenated bit field", where "said selected portions [are] less than an entirety of a corresponding frame packet" and "generating a forward error correction code for the concatenated bit field" or, alternatively, "generating forward error correction data for a concatenated bit field formed simultaneously from only selected portions of packet data from each of a plurality of frame packets, where the selected portions are less than an entirety of

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the corresponding frame packet". Thus, it is respectfully submitted that the cited references, when taken alone or even when considered together, fail to disclose these and other of the unique combinations of method steps and related elements more clearly recited by Applicant's pending Claims for the purposes and objectives disclosed in the subject Patent Application. Thus, it is believed that the invention so claimed is neither anticipated nor made obvious by those references. Furthermore, as the independent Claims of the subject Patent Application are believed to be in condition for allowance, the dependent Claims derived therefrom are believed to be allowable for at least the same reasons for which their corresponding base Claims are allowable:

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In view of the foregoing amendments and remarks, Applicants believe that the subject Patent Application is in condition for allowance and such action is respectfully requested.

Respectfully submitted,
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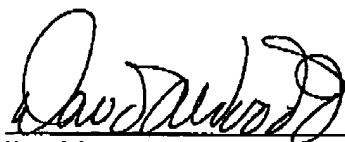
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For: ROSENBERG, KLEIN & LEE



David R. Wood

13 SEP 2005

Date